

**REMARKS**

Claims 1-10 are pending in this application. Claims 1, 6 and 9 are independent. Reconsideration and allowance of the application is respectfully requested.

**REJECTION UNDER 35 U.S.C. § 103**

Claims 1-10 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Andersson et al. (hereinafter "Andersson"), US Patent 5,937,002. The rejection is respectfully traversed.

Applicant submits that Andersson fails to teach or disclose a wireless system, comprising, at least:

a frequency hopping generator, the frequency hopping generator providing a frequency sequence having a short term deterministic structure, wherein the deterministic structure of the frequency sequence is in matrix form, where each row of the matrix is a vector, and all components of each vector are generated simultaneously (emphasis added)

as recited in claim 1.

The Examiner admits on pages 3-4 in the Office Action that Andersson fails to disclose or suggest "the elements of the matrix can be represented in vector form". Yet, the Examiner attempts to overcome the admitted deficiencies by arguing that:

[o]ne of ordinary skill in the art would clearly recognize that the elements of the matrix can be represented in vector form, which is a form of mathematical representation, and since the pseudo random coding is used then the frequencies are generated simultaneously.

However, Applicant submits that the structure and method of Andersson is completely different from Applicant's invention. That is, Andersson's frequency sequence hopping is a conventional technique (e.g., cyclic frequency hopping) that is implemented in a

wireless network, such as in a GSM standard, rather than each row of the frequency sequence being a vector. As an exemplary embodiment of the present invention, a frequency sequence in vector form may be a layered cyclic permutation (LCP) (e.g., when the LCP generates a vector, the collision event should be evaluated between a reference sequence (a column of a reference  $t \times n$  matrix), and all  $n$  sequences generated simultaneously by another initial vector ( $n$  columns of a  $t \times n$  matrix generated by a different initial vector). This results in reducing any bursty occurrences of same frequencies during frequency hopping.

Further, the Examiner has failed to provide any evidence of motivation why the hopping sequence in Andersson would be modified as suggested by the Examiner. This shortcoming of Andersson which must be supplemented by some other teaching wherein one of ordinary skill in the art must be motivated to provide the supplemental teaching by some motivation, teaching or suggestion of the desirability to make the combination as indicated in In re Dembiczak, 50 USPQ2d 1646 (Fed. Cir. 1999) and In re Kozab, 55 USPQ 1313 (Fed. Cir. 2000).

Further, the Examiner is using *impermissible hindsight* reconstruction to reject the features recited in claim 1. For instance, the Examiner's statement that "it would have been obvious to one of ordinary skill in the art to use the teaching of Andersson et al in order to use the best channels with respect to interference" is not sufficient evidence. Applicant disagrees with the Examiner's reasoning, and submits that the mere possibility that one element may be "represented in different form" is not sufficient evidence of a suggestion or motivation to modify the reference. The Examiner has merely provided conclusory statements regarding the knowledge in the art, motivation and obviousness. The Federal Circuit has noted that the PTO and the courts "cannot use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention," In re Fine, 837 F.2d 1071, 1075, 5 USPQ2d 1780, 1783 (Fed. Cir. 1988), and that the best defense

against hindsight-based obviousness analysis is the rigorous application of the requirement for a showing of a teaching or motivation to combine the prior art references. Applicant submits that the Examiner has failed to provide evidence of motivation for modifying the teachings of Andersson.

Accordingly, Andersson fails to disclose or suggest “the deterministic structure of the frequency sequence is in matrix form, where each row of the matrix is a vector, and all components of each vector are generated simultaneously”, as recited in claim 1.

With respect to independent claim 6, Applicant submits that Andersson fails to teach or disclose, *inter alia*, “generating several frequency sequences in vector form; and generating a matrix including the several frequency sequences in vector form”.

With respect to independent claim 9, Applicant submits that Andersson fails to teach or disclose, *inter alia*, “generating mutual orthogonal sequences simultaneously in vector form based upon the repetition distance”.

For at least these reasons, Applicant respectfully submits that Andersson fails to disclose or render obvious the features recited in independent claims 1, 6 and 9. Claims 2-5, 7-8 and 10, which depend from the respective independent claims are likewise distinguished over the applied art for at least the reasons discussed, as well as for the additional features they recite. Reconsideration and withdrawal of the rejection is respectfully requested.

### **CONCLUSION**

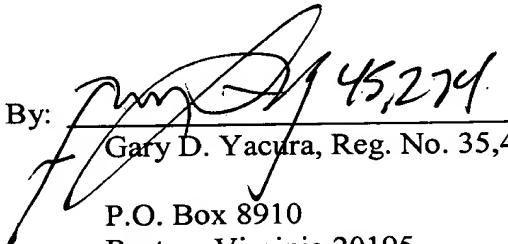
In view of the above amendments and remarks, reconsideration of the rejections and allowance of claims 1-10 is respectfully requested.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact the undersigned at the telephone number listed below.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 08-0750 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17; particularly, extension of time fees.

Respectfully submitted,

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